

CLAIMS

I claim:

1. A ratchet mechanism comprising:

- a) a housing;
- b) a gear disposed within the housing;
- c) a shaft operably connected to the gear and extending into the housing;
- 5 d) at least one pawl disposed at least partially within the housing and

selectively engageable with the gear; and

e) at least one bearing disposed around the shaft adjacent the gear; the at least one bearing having an inner engaging surface engaged with the shaft and an outer engaging surface engaged with the housing.

2. The mechanism of claim 1 wherein the outer engaging surface includes a sealing member engaging the housing.

3. The mechanism of claim 2 wherein the sealing member is an adhesive.

4. The mechanism of claim 2 wherein the sealing member is a plastic ring.

5. The mechanism of claim 4 wherein the plastic ring is a rubber O-ring.

6. The mechanism of claim 1 further comprising:

- a) a first bearing disposed around the shaft adjacent the gear; and
- b) a second bearing disposed around the shaft and spaced from the gear.

7. The mechanism of claim 6 wherein the first bearing and the second bearing are each positioned within the housing.

8. The mechanism of claim 6 wherein the first bearing and the second bearing are similarly shaped.

9. The mechanism of claim 1 wherein the outer engaging surface conforms to the shape of the housing.

10. The mechanism of claim 1 wherein the at least one bearing is a roller bearing.

11. The mechanism of claim 1 wherein the at least one bearing is formed from a plastic material having a low coefficient of friction.

12. The mechanism of claim 1 further comprising a cap engaged with the housing over the gear, the cap including a central opening aligned with the gear.

13. The mechanism of claim 12 wherein the cap is sealingly engaged with the housing.

14. The mechanism of claim 1 wherein the gear and the shaft are integrally formed.

15. A fluid tight ratcheting mechanism comprising:

a) a housing;

b) a shaft with a first end disposed within the housing and a second end located opposite the first end;

5 c) a gear operably connected to the second end;

d) a least one pawl engaged with the housing and selectively engageable with the gear;

e) at least one bearing disposed around the shaft adjacent the gear, the at least one bearing including an inner engaging surface contacting the shaft and an outer engaging
10 surface sealingly engaging the cavity; and

f) a cap rotatably and sealingly secured to the housing, the cap including a central opening concentrically aligned with the gear.

16. The mechanism of claim 15 further comprising:

a) a first bearing disposed on the shaft adjacent the gear and having a first inner engaging surface and a first outer engaging surface, the first bearing including a first sealing member disposed on the first outer engaging surface; and

5 b) a second bearing disposed on the shaft adjacent the first bearing and including a second inner engaging surface and a second outer engaging surface, the second bearing including a second sealing member disposed on the second outer engaging surface.

17. The mechanism of claim 16 wherein the first sealing member and the second sealing member are selected from the group consisting of: an adhesive, a wave washer, a plastic ring, and a rubber O-ring.

18. The mechanism of claim 16 wherein the first bearing and the second bearing are spaced from one another on the shaft.

19. The mechanism of claim 15 further comprising a third sealing member disposed within the cavity opposite the cap, the third sealing member engaged with the housing.

20. The mechanism of claim 15 further comprising a fourth sealing member secured to the cap and engageable with the housing around the periphery of the cavity.